

WHAT IS CLAIMED IS:

1 1. A method for extracting at least one representative
2 color signal value representing each color region from
3 each of a plurality of color regions in a color chart
4 image comprising the steps of:

5 a region deciding step of deciding a color
6 signal value extracting region for each color region
7 of said color chart image;

8 an extracting step of calculating said
9 representative color signal value of said color region
10 on the basis of color signal values in said color signal
11 value extracting region and extracting the same;

12 a displaying step of displaying said color
13 signal value extracting region along with said color
14 chart image on a display unit; and

15 a determining step of determining correctness
16 of said representative color signal value on the basis
17 of said color signal value extracting region and said
18 color chart image which are displayed on said display
19 unit.

1 2. A method for extracting at least one representative
2 color signal value representing each color region from
3 each of a plurality of color regions in a color chart
4 image comprising the steps of:

5 a region deciding step of deciding a color

6 signal value extracting region of each color region
7 of said color chart image;
8 an extracting step of calculating said
9 representative color signal value of said color region
10 on the basis of color signal values in said color signal
11 value extracting region and extracting the same;
12 a characteristic value calculating step of
13 calculating at least one characteristic value for
14 determining correctness of said representative color
15 signal value, on the basis of color signal values in
16 said color signal value extracting region; and
17 a determining step of determining correctness
18 of said representative color signal value on the basis
19 of said characteristic value.

1 3. A method for extracting at least one representative
2 color signal value representing each color region from
3 each of a plurality of color regions in a color chart
4 image comprising the steps of:

5 a region deciding step of deciding a color
6 signal value extracting region for each color region
7 of said color chart image;

8 an extracting step of calculating said
9 representative color signal value of said color region
10 on the basis of color signal values in said color signal
11 value extracting region and extracting the same;

12 a characteristic value calculating step of

13 calculating at least one characteristic value for
14 determining correctness of said representative color
15 signal value, on the basis of color signal values in
16 said color signal value extracting region;

17 a displaying step of displaying said color
18 signal value extracting region along with said color
19 chart image on a display unit; and

20 a determining step of determining correctness
21 of said representative color signal value on the basis
22 of said color signal value extracting region and said
23 color chart image which are displayed on said display
24 unit, and said characteristic value.

1 4. The color signal value extracting method according
2 to claim 3 further comprising a coordinate designating
3 step of designating coordinates of said color chart
4 image before said region deciding step;

5 wherein, at said region deciding step, said
6 color signal value extracting region is decided on the
7 basis of said coordinates designated at said coordinate
8 designating step.

1 5. An apparatus for extracting at least one
2 representative color signal value representing each
3 color region from each of a plurality of color regions
4 in a color chart image comprising:

5 a display unit for displaying various

6 information;
7 a region decision unit for deciding a color
8 signal value extracting region for each color region
9 of said color chart image;
10 an extraction unit for calculating said
11 representative color signal value of said color region
12 on the basis of color signal values in said color signal
13 value extracting region and extracting the same; and
14 a display control unit for making said display
15 unit display said color signal value extracting region
16 along with said color chart image.

1 6. An apparatus for extracting at least one
2 representative color signal value representing each
3 color region from each of a plurality of color regions
4 in a color chart image comprising:

5 a region decision unit for deciding a color
6 signal value extracting region for each color region
7 of said color chart image;

8 an extraction unit for calculating said
9 representative color signal value of said color region
10 on the basis of color signal values in said color signal
11 value extracting region and extracting the same;

12 a characteristic value calculation unit for
13 calculating at least one characteristic value for
14 determining correctness of said representative color
15 signal value, on the basis of color signal values in

16 said color signal value extracting region; and
17 a determination unit for determining
18 correctness of said representative color signal value
19 on the basis of said characteristic value.

1 7. An apparatus for extracting at least one
2 representative color signal value representing each
3 color region from each of a plurality of color regions
4 in a color chart image comprising:

5 a display unit for displaying various
6 information;

7 a region decision unit for deciding a color
8 signal value extracting region for each color region
9 of said color chart image;

10 an extraction unit for calculating said
11 representative color signal value of said color region
12 on the basis of color signal values in said color signal
13 value extracting region and extracting the same;

14 a characteristic value calculation unit for
15 calculating at least one characteristic value for
16 determining correctness of said representative color
17 signal value, on the basis of color signal values in
18 said color signal value extracting region;

19 a display control unit for making said display
20 unit display said color signal value extracting region
21 along with said color chart image; and

22 a determination unit for determining

23 correctness of said representative color signal value
24 on the basis of said characteristic value.

1 8. A computer readable record medium storing a color
2 signal value extracting program for realizing a
3 function of extracting at least one representative
4 color signal value representing each color region from
5 each of a plurality of color regions in a color chart
6 image by a computer;

7 said color signal value extracting program
8 making said computer function as:

9 a region decision unit for deciding a color
10 signal value extracting region for each color region
11 of said color chart image;

12 an extraction unit for calculating said
13 representative color signal value of said color region
14 on the basis of color signal values in said color signal
15 value extracting region and extracting the same; and

16 a display control unit for making a display
17 unit display said color signal value extracting region
18 along with said color chart image.

1 9. A computer readable record medium storing a color
2 signal value extracting program for making a computer
3 realize a function of extracting at least one
4 representative color signal value representing each
5 color region from each of a plurality of color regions

6 in a color chart image;
7 said color signal value extracting program
8 making said computer function as:
9 a region decision unit for deciding a color
10 signal value extracting region for each color region
11 of said color chart image;
12 an extraction unit for calculating said
13 representative signal value of said color region on
14 the basis of color signal values in said color signal
15 value extracting region and extracting the same;
16 a characteristic value extraction unit for
17 calculating at least one characteristic value for
18 determining correctness of said representative color
19 signal value, on the basis of color signal values in
20 said color signal value extracting region; and
21 a determination unit for determining
22 correctness of said representative color signal value
23 on the basis of said characteristic value.

1 10. A computer readable record medium storing a color
2 signal value extracting program to make a computer
3 realize a function of extracting at least one
4 representative color signal value representing each
5 color region from each of a plurality of color regions
6 in a color chart image;
7 said color signal value extracting program
8 making said computer function as:

9 a region decision unit for deciding a color
10 signal value extracting region for each color region
11 in said color chart image;
12 an extraction unit for calculating said
13 representative color signal value of said color region
14 on the basis of color signal values in said color signal
15 value extracting region and extracting the same;
16 a characteristic value calculation unit for
17 calculating at least one characteristic value for
18 determining correctness of said representative color
19 signal value, on the basis of color signal values in
20 said color signal value extracting region;
21 a display control unit for making a display
22 unit display said color signal value extracting region
23 along with said color chart image; and
24 a determination unit for determining
25 correctness of said representative color signal value
26 on the basis of said characteristic value.

1 11. A method for creating a color transformation table
2 for a color input device comprising the steps of:
3 a color chart reading step of reading a
4 predetermined color chart by said color input device;
5 a color signal value extracting step of
6 extracting at least one representative color signal
7 representing each color region from each of a plurality
8 of color regions in a color chart image read at said

9 color chart reading step;

10 a colorimetric step of measuring a color in

11 each of a plurality of color regions in said

12 predetermined color chart; and

13 a color transformation table creating step of

14 correlating said representative color signal value

15 extracted at said color signal value extracting step

16 with at least one colorimetric value measured at said

17 colorimetric step in each color region to create said

18 color transformation table for said color input device;

19 said color signal value extracting step

20 comprising:

21 a region deciding step of deciding a

22 color signal value extracting region for each color

23 region of said color chart image;

24 an extracting step of calculating

25 said representative color signal value of said color

26 region on the basis of color signal values in said color

27 signal value extracting region and extracting the same;

28 a displaying step of making a display

29 unit display said color signal value extracting region

30 along with said color chart image; and

31 a determining step of determining

32 correctness of said representative color signal value

33 on the basis of said color signal value extracting

34 region and said color chart image which are displayed

35 on said display unit.

1 12. A method for creating a color transformation table
2 for a color input device comprising the steps of:
3 a color chart reading step of reading a
4 predetermined color chart by said color input device;
5 a color signal value extracting step of
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions in a color chart image read
9 at said color chart reading step;
10 a colorimetric step of measuring a color in
11 each of a plurality of color regions in said
12 predetermined color chart; and
13 a color transformation table creating step of
14 correlating said representative color signal value
15 extracted at said color signal value extracting step
16 with at least one colorimetric value measured at said
17 colorimetric step in each color region to create said
18 color transformation table for said color input device;
19 said color signal value extracting step
20 comprising:
21 a region deciding step of deciding a
22 color signal value extracting region for each color
23 region of said color chart image;
24 an extracting step of calculating said
25 representative color signal value of said color region
26 on the basis of color signal values in said color signal

27 value extracting region and extracting the same;
28 a characteristic value calculating
29 step of calculating at least one characteristic value
30 for determining correctness of said representative
31 color signal value, on the basis of color signal values
32 in said color signal value extracting region; and
33 a determining step of determining
34 correctness of said representative color signal value
35 on the basis of said characteristic value.

1 13. A method for creating a color transformation table
2 for a color input device comprising the steps of:
3 a color chart reading step of reading a
4 predetermined color chart by said color input device;
5 a color signal value extracting step of
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions in a color chart image read
9 at said color chart reading step;
10 a colorimetric step of measuring a color in
11 each of a plurality of color regions in said
12 predetermined color chart; and
13 a color transformation table creating step of
14 correlating said representative color signal value
15 extracted at said color signal value extracting step
16 with at least one colorimetric value measured at said
17 colorimetric step in each color region to create said

18 color transformation table for said color input device;
19 said color signal value extracting step
20 comprising:
21 a region deciding step of deciding a
22 color signal value extracting region for each color
23 region in said color chart image;
24 an extracting step of calculating said
25 representative color signal value of said color region
26 on the basis of color signal values in said color signal
27 value extracting region and extracting the same;
28 a characteristic value calculating
29 step of calculating at least one characteristic value
30 for determining correctness of said representative
31 color signal value, on the basis of color signal values
32 in said color signal value extracting region;
33 a displaying step of making a display
34 unit display said color signal value extracting region
35 along with said color chart image; and
36 a determining step of determining
37 correctness of said representative color signal value
38 on the basis of said color signal value extracting
39 region and said color chart image which are displayed
40 on said display unit, and said characteristic value.

1 14. An apparatus for creating a color transformation
2 table for a color input device comprising:
3 a display unit for displaying various

4 information;

5 a color signal value extraction unit for

6 extracting at least one representative color signal

7 value representing each color region from each of a

8 plurality of color regions in a color chart image

9 obtained by reading a predetermined color chart by said

10 color input device;

11 a colorimeter for measuring a color of each

12 of a plurality of color regions in said predetermined

13 color chart; and

14 a color transformation table creation unit for

15 correlating said representative color signal value

16 extracted by said color signal value extraction unit

17 with at least one colorimetric value measured by said

18 colorimeter in each color region to create said color

19 transformation table for said color input device;

20 said color signal value extraction unit

21 comprising:

22 a region decision unit for deciding

23 a color signal value extracting region for each color

24 region of said color chart image;

25 an extraction unit for calculating

26 said representative color signal value of said color

27 region on the basis of color signal values in said color

28 signal value extracting region and extracting the same;

29 and

30 a display control unit for making said

31 display unit display said color signal value extracting
32 region along with said color chart image.

1 15. An apparatus for creating a color transformation
2 table for a color input device comprising:

3 a color signal value extraction unit for
4 extracting at least one representative color signal
5 value representing each color region from each of a
6 plurality of color regions in a color chart image
7 obtained by reading a predetermined color chart by said
8 color input device;

9 a colorimeter for measuring a color in each
10 of a plurality of color regions in said predetermined
11 color chart; and

12 a color transformation table creation unit for
13 correlating said representative color signal value
14 extracted by said color signal value extraction unit
15 with at least one colorimetric value measured by said
16 colorimeter in each color region to create said color
17 transformation table for said color input device;

18 said color signal value extraction unit
19 comprising:

20 a region decision unit for deciding
21 a color signal value extracting region for each color
22 region of said color chart image;

23 an extraction unit for calculating
24 said representative color signal value in said color

25 region on the basis of color signal values in said color
26 signal value extracting region and extracting the same;
27 a characteristic value calculation
28 unit for calculating at least one characteristic value
29 for determining correctness of said representative
30 color signal value, on the basis of color signal values
31 in said color signal value extracting region; and
32 a determination unit for determining
33 correctness of said representative color signal value
34 on the basis of said characteristic value.

1 16. An apparatus for creating a color transformation
2 table for a color input device comprising:
3 a display unit for displaying various
4 information;
5 a color signal value extraction unit for
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions in a color chart image
9 obtained by reading a predetermined color chart by said
10 color input device;
11 a colorimeter for measuring a color of each
12 of a plurality of color regions in said predetermined
13 color chart; and
14 a color transformation table creation unit for
15 correlating said representative color signal value
16 extracted by said color signal value extraction unit

17 with at least one colorimetric value measured by said
18 colorimeter in each color region to create said color
19 transformation table for said color input device;
20 said color signal value extraction unit
21 comprising:
22 a region decision unit for deciding
23 a color signal value extracting region for each color
24 region of said color chart image;
25 an extraction unit for calculating
26 said representative color signal value of said color
27 region on the basis of color signal values in said color
28 signal value extracting region and extracting the same;
29 a characteristic value calculation
30 unit for calculating at least one characteristic value
31 for determining correctness of said representative
32 color signal value, on the basis of color signal values
33 in said color signal value extracting region;
34 a display control unit for making said
35 display unit display said color signal value extracting
36 region along with said color chart image; and
37 a determination unit for determining
38 correctness of said representative color signal value
39 on the basis of said characteristic value.

1 17. A computer readable record medium in which a color
2 transformation table creating program for making a
3 computer realize a function of creating a color

4 transformation table for a color input device is
5 recorded;

6 said color transformation table creating
7 program making said computer function as:

8 a color signal value extraction unit
9 for extracting at least one representative color signal
10 value representing each color region from each of a
11 plurality of color regions in a color chart image
12 obtained by reading a predetermined color chart by said
13 color input device; and

14 a color transformation table creation
15 unit for correlating at least one colorimetric value
16 of each of a plurality of color regions in said
17 predetermined color chart with said representative
18 color signal value extracted by said color signal value
19 extraction unit in each color region to create said
20 color transformation table for said color input device;

21 when said computer is made function as said
22 color signal value extraction unit, said color
23 transformation table creating program making said
24 computer function as:

25 a region decision unit for deciding
26 a color signal extracting region for each color region
27 of said color chart image;

28 an extraction unit for calculating
29 said representative color signal value of said color
30 region on the basis of color signal values in said color

31 signal value extracting region and extracting the same;
32 and
33 a display control unit for making a
34 display unit display said color signal value extracting
35 region along with said color chart image.

1 18. A computer readable record medium in which a color
2 transformation table creating program for making a
3 computer realize a function of creating a color
4 transformation table for a color input device is
5 recorded;

6 said color transformation table creating
7 program making said computer function as:

8 a color signal value extraction unit
9 for extracting at least one representative color signal
10 value representing each color region from each of a
11 plurality of color regions in a color chart image
12 obtained by reading a predetermined color chart by said
13 color input device; and

14 a color transformation table creation
15 unit for correlating at least one colorimetric value
16 of each of a plurality of color regions in said
17 predetermined color chart with said representative
18 color signal value extracted by said color signal value
19 extraction unit in each color region to create said
20 color transformation table for said color input device;

21 when said computer is made function as said

22 color signal value extraction unit, said color
23 transformation table creating program making said
24 computer function as:

25 a region decision unit for deciding
26 a color signal value extracting region for each color
27 region of said color chart image;

28 an extraction unit for calculating
29 said representative color signal value of said color
30 region on the basis of color signal values in said color
31 signal value extracting region and extracting the same;

32 a characteristic value calculation
33 unit for calculating at least one characteristic value
34 for determining correctness of said representative
35 color signal value, on the basis of color signal values
36 in said color signal value extracting region; and

37 a determination unit for determining
38 correctness of said representative color signal value
39 on the basis of said characteristic value.

1 19. A computer readable record medium in which a color
2 transformation table creating program for making a
3 computer realize a function of creating a color
4 transformation table for a color input device is
5 recorded;

6 said color transformation table creating
7 program making said computer function as:

8 a color signal value extraction unit

9 forextractingatleastonerepresentativecolorsignal
10 value representing each color region from each of a
11 plurality of color regions in a color chart image
12 obtainedbyreadingapredeterminedcolorchartbysaid
13 color input device; and

14 a color transformation table creation
15 unit for correlating at least one colorimetric value
16 of each of a plurality of color regions in said
17 predetermined color chart with said representative
18 color signal value extracted by said color signal value
19 extraction unit in each color region to create said
20 color transformation table for said color input device;

21 when said computer is made function as said
22 color signal value extraction unit, said color
23 transformation table creating program making said
24 computer function as:

25 a region decision unit for deciding
26 a color signal value extracting region for each color
27 region of said color chart image;

28 an extraction unit for calculating
29 said representative color signal value of said color
30 region on the basis of color signal values in said color
31 signal value extracting region and extracting the same;

32 a characteristic value calculation
33 unit for calculating at least one characteristic value
34 for determining correctness of said representative
35 color signal value, on the basis of color signal values

36 in said color signal value extracting region;
37 a display control unit for making a
38 displayunitdisplay said color signal value extracting
39 region along with said color chart image; and
40 a determination unit for determining
41 correctness of said representative color signal value
42 on the basis of said characteristic value.

1 20. A method for creating a color transformation table
2 for a color output device comprising the steps of:
3 a color chart outputting step of giving
4 predetermined color signal values to said color output
5 device to make said color output device output a
6 predetermined color chart;
7 a color chart reading step of reading said
8 predetermined color chart by a color input device;
9 a color transforming step of transforming a
10 color chart image read at said color chart reading step
11 into an image expressed in a device-independent color
12 space on the basis of a color transformation table for
13 said color input device;
14 a color signal value extracting step of
15 extracting at least one representative color signal
16 value representing each color region from each of a
17 plurality of color regions in said color chart image
18 transformed at said color transforming step; and
19 a color transformation table creating step of

20 correlating said predetermined color signal value
21 given to said color output device at said color chart
22 outputting step with said representative color signal
23 value extracted at said color signal value extracting
24 step in each color region to create said color
25 transformation table for said color output device.

1 21. A method for creating a color transformation table
2 for a color output device comprising the steps of:
3 a color chart outputting step of giving
4 predetermined color signal values to said color output
5 device to make said color output device output a
6 predetermined color chart;
7 a color chart reading step of reading said
8 predetermined color chart by a color input device;
9 a color signal value extracting step of
10 extracting at least one representative color signal
11 value representing each color region from each of a
12 plurality of color regions in a color chart image read
13 at said color chart reading step;
14 a color transforming step of transforming said
15 representative color signal value extracted at said
16 color signal value extracting step into at least one
17 color signal value expressed in a device-independent
18 color space on the basis of a color transformation table
19 for said color input device; and
20 a color transformation table creating step of

21 correlating said predetermined color signal value
22 given to said color output device at said color chart
23 outputting step with said representative color signal
24 value transformed at said color transforming step in
25 each color region to create said color transformation
26 table for said color output device.

1 22. An apparatus for creating a color transformation
2 table for a color output device comprising:

3 a color signal value giving unit for giving
4 predetermined color signal values to said color output
5 device in order to make said color output device output
6 a predetermined color chart;

7 a color input device for reading said
8 predetermined color chart outputted from said color
9 output device;

10 a color transformation unit for transforming
11 a color chart image read by said color input device
12 into an image expressed in a device-independent color
13 space on the basis of a color transformation table for
14 said color input device;

15 a color signal value extraction unit for
16 extracting at least one representative color signal
17 value representing each color region from each of a
18 plurality of color regions in said color chart image
19 transformed by said color transformation unit; and

20 a color transformation table creation unit for

21 correlating said predetermined color signal value
22 given to said color output device with said
23 representative color signal value extracted by said
24 color signal value extraction unit in each color region
25 to create said color transformation table for said
26 color output device.

1 23. An apparatus for creating a color transformation
2 table for a color output device comprising:

3 a color signal value giving unit for giving
4 predetermined color signal values to said color output
5 device in order to make said color output device output
6 a predetermined color chart;

7 a color input device for reading said
8 predetermined color chart outputted from said color
9 output device;

10 a color signal value extraction unit for
11 extracting at least one representative color signal
12 value representing each color region from each of a
13 plurality of color regions in a color chart image read
14 by said color input device;

15 a color transformation unit for transforming
16 said representative color signal value extracted by
17 said color signal value extraction unit into at least
18 one color signal value expressed in a
19 device-independent color space on the basis of a color
20 transformation table for said color input device; and

21 a color transformation table creation unit for
22 correlating said predetermined color signal value
23 given to said color output device with said
24 representative color signal value transformed by said
25 color transformation unit in each color region to
26 create said color transformation table for said color
27 output device.

1 24. A computer readable record medium in which a color
2 transformation table creating program for making a
3 computer realize a function of creating a color
4 transformation table for a color output device is
5 recorded;

6 said color transformation table creating
7 program making said computer function as:

8 a color signal value giving unit for
9 giving predetermined color signal values to said color
10 output device in order to make said color output device
11 output a predetermined color chart;

12 a color transformation unit for
13 transforming a color chart image obtained by reading
14 said predetermined color chart, which is outputted from
15 said color output device, by said color input device
16 into an image expressed in a device-independent color
17 space on the basis of a color transformation table for
18 said color input device;

19 a color signal value extraction unit

20 for extracting at least one representative color signal
21 value representing each color region from each of a
22 plurality of color regions in said color chart image
23 transformed by said color transformation unit; and
24 a color transformation table creation
25 unit for correlating said predetermined color signal
26 value given to said color output device with said
27 representative color signal value extracted by said
28 color signal value extraction unit in each color region
29 to create said color transformation table for said
30 color output device.

1 25. A computer readable record medium in which a color
2 transformation table creating program for making a
3 computer realize a function of creating a color
4 transformation table for a color output device is
5 recorded;

6 said color transformation table creating
7 program making said computer function as:

8 a color signal value giving unit for
9 giving predetermined color signal values to said color
10 output device in order to make said color output device
11 output a predetermined color chart;

12 a color signal value extraction unit
13 for extracting at least one representative color signal
14 value representing each color region from each of a
15 plurality of color regions in a color chart image

16 obtained by reading said predetermined color chart,
17 which is outputted from said color output device, by
18 said color input device;

19 a color transformation unit for
20 transforming said representative color signal value
21 extracted by said color signal value extraction unit
22 into at least one color signal value expressed in a
23 device-independent color space on the basis of a color
24 transformation table for said color input device; and

25 a color transformation table creation
26 unit for correlating said predetermined color signal
27 value given to said color output device with said
28 representative color signal value transformed by said
29 color transformation unit in each color region to
30 create said color transformation table for said color
31 output device.

1 26. A method for checking gradation maintainability
2 of a color input device comprising the steps of:

3 a color chart reading step of reading a
4 predetermined color chart by said color input device;

5 a color signal value extracting step of
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions configuring gradations in
9 a color chart image read at said color chart reading
10 step; and

11 a checking step for checking gradation
12 maintainability of said color input device on the basis
13 of said representative color signal value extracted
14 at said color signal value extracting step;
15 said color signal value extracting step
16 comprising:
17 a region deciding step of deciding a
18 color signal value extracting region for each color
19 region of said color chart image;
20 an extracting step of calculating said
21 representative color signal value of said color region
22 on the basis of color signal values in said color signal
23 value extracting region and extracting the same;
24 a displaying step of making a display
25 unit display said color signal value extracting region
26 along with said color chart image; and
27 a determining step of determining
28 correctness of said representative color signal value
29 on the basis of said color signal value extracting
30 region and said color chart image which are displayed
31 on said display unit.

1 27. A method for checking gradation maintainability
2 of a color input device comprising the steps of:
3 a color chart reading step of reading a
4 predetermined color chart by said color input device;
5 a color signal value extracting step of

6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions configuring gradations in
9 a color chart image read at said color chart reading
10 step; and

11 a checking step of checking gradation
12 maintainability of said color input device on the basis
13 of said representative color signal value extracted
14 at said color signal value extracting step;

15 said color signal value extracting step
16 comprising:

17 a region deciding step of deciding a
18 color signal value extracting region for each color
19 region of said color chart image;

20 an extracting step of calculating said
21 representative color signal value of said color region
22 on the basis of color signal values in said color signal
23 value extracting region and extracting the same;

24 a characteristic value calculating
25 step of calculating at least one characteristic value
26 for determining correctness of said representative
27 color signal value, on the basis of color signal values
28 in said color signal value extracting region; and

29 a determining step of determining
30 correctness of said representative color signal value
31 on the basis of said characteristic value.

1 28. A method for checking gradation maintainability
2 of a color input device comprising the steps of:
3 a color chart reading step of reading a
4 predetermined color chart by said color input device;
5 a color signal value extracting step of
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions configuring gradations in
9 a color chart image read at said color chart reading
10 step; and
11 a checking step of checking gradation
12 maintainability of said color input device on the basis
13 of said representative color signal value extracted
14 at said color signal value extracting step;
15 said color signal value extracting step
16 comprising:
17 a region deciding step of deciding a
18 color signal value extracting region for each color
19 region of said color chart image;
20 an extracting step of calculating said
21 representative color signal value of said color region
22 on the basis of color signal values in said color signal
23 value extracting region and extracting the same;
24 a characteristic value calculating
25 step of calculating at least one characteristic value
26 for determining correctness of said representative
27 color signal value, on the basis of color signal values

28 in said color signal value extracting region;
29 a displaying step of making a display
30 unit display said color signal value extracting region
31 along with said color chart image; and
32 a determining step of determining
33 correctness of said representative color signal value
34 on the basis of said color signal value extracting
35 region and said color chart image which are displayed
36 on said display unit, and said characteristic value.

1 29. An apparatus for checking gradation
2 maintainability of a color input device comprising:
3 a display unit for displaying various
4 information;
5 a color signal value extraction unit for
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions configuring gradations in
9 a color chart image obtained by reading a predetermined
10 color chart by said color input device; and
11 a check unit for checking gradation
12 maintainability of said color input device on the basis
13 of said representative color signal value extracted
14 by said color signal value extraction unit;
15 said color signal value extraction unit
16 comprising:
17 a region decision unit for deciding

18 a color signal value extracting region for each color
19 region in said color chart image;
20 an extraction unit for calculating
21 said representative color signal value of said color
22 region on the basis of color signal values in said color
23 signal value extracting region and extracting the same;
24 and
25 a display control unit for making said
26 display unit display said color signal value extraction
27 region along with said color chart image.

1 30. An apparatus for checking gradation
2 maintainability of a color input device comprising:
3 a color signal value extraction unit for
4 extracting at least one representative color signal
5 value representing each color region from each of a
6 plurality of color regions configuring gradation in
7 a color chart image obtained by reading a predetermined
8 color chart by said color input device; and
9 a check unit for checking gradation
10 maintainability of said color input device on the basis
11 of said representative color signal value extracted
12 by said color signal value extraction unit;
13 said color signal value extraction unit
14 comprising:
15 a region decision unit for deciding
16 a color signal value extracting region for each color

17 region of said color chart image;
18 an extraction unit for extracting said
19 representative color signal value of said color region
20 on the basis of color signal values in said color signal
21 value extracting region and extracting the same;
22 a characteristic value calculation
23 unit for calculating at least one characteristic value
24 for determining correctness of said representative
25 color signal value, on the basis of color signal values
26 in said color signal value extracting region; and
27 a determination unit for determining
28 correctness of said representative color signal value
29 on the basis of said characteristic value.

1 31. An apparatus for checking gradation
2 maintainability of a color input device comprising:
3 a display unit for displaying various
4 information;
5 a color signal value extraction unit for
6 extracting at least one representative color signal
7 value representing each color region from each of a
8 plurality of color regions configuring gradations in
9 a color chart image obtained by reading a predetermined
10 color chart by said color input device; and
11 a check unit for checking gradation
12 maintainability of said color input device on the basis
13 of said representative color signal value extracted

14 by said color signal value extraction unit;
15 said color signal value extraction unit
16 comprising:
17 a region decision unit for deciding
18 a color signal value extracting region for each color
19 region of said color chart image;
20 an extraction unit for calculating
21 said representative color signal value of said color
22 region on the basis of color signal values in said color
23 signal value extracting region and extracting the same;
24 a characteristic value calculation
25 unit for calculating at least one characteristic value
26 for determining correctness of said representative
27 color signal value, on the basis of color signal values
28 in said color signal value extracting region;
29 a display control unit for making said
30 display unit display said color signal value extracting
31 region along with said color chart image; and
32 a determination unit for determining
33 correctness of said representative color signal value
34 on the basis of said characteristic value.

1 32. A computer readable record medium in which a
2 gradation maintainability checking program for making
3 a computer realize a function of checking gradation
4 maintainability of a color input device is recorded;
5 said gradation maintainability checking

6 program making said computer function as:
7 a color signal value extraction unit
8 for extracting at least one representative color signal
9 value representing each color region from each of a
10 plurality of color regions configuring gradations in
11 a color chart image obtained by reading a predetermined
12 color chart by said color input device; and
13 a check unit for checking gradation
14 maintainability of said color input device on the basis
15 of said representative color signal value extracted
16 by said color signal value extraction unit;
17 when said computer is made function as said
18 color signal value extraction unit, said gradation
19 maintainability checking program making said computer
20 function as:
21 a region decision unit for deciding
22 a color signal value extracting region for each color
23 region of said color chart image;
24 an extraction unit for calculating
25 said representative color signal value of said color
26 region on the basis of color signal values in said color
27 signal value extracting region and extracting the same;
28 and
29 a display control unit for making a
30 display unit displays said color signal value extracting
31 region along with said color chart image.

1 33. A computer readable record medium in which a
2 gradation maintainability checking program for making
3 a computer realize a function of checking gradation
4 maintainability of a color input device is recorded;
5 said gradation maintainability checking
6 program making said computer function as:
7 a color signal value extraction unit
8 for extracting at least one representative color signal
9 value representing each color region from each of a
10 plurality of color regions configuring gradations in
11 a color chart image obtained by reading a predetermined
12 color chart by said color input device; and
13 a check unit for checking gradation
14 maintainability of said color input device on the basis
15 of said representative color signal value extracted
16 by said color signal value extraction unit;
17 when said computer is made function as said
18 color signal value extraction unit, said gradation
19 maintainability checking program making said computer
20 function as:
21 a region decision unit for deciding
22 a color signal value extracting region for each color
23 region of said color chart image;
24 an extraction unit for calculating
25 said representative color signal value of said color
26 region on the basis of color signal values in said color
27 signal value extracting region and extracting the same;

28 a characteristic value calculation
29 unit for calculating at least one characteristic value
30 for determining correctness of said representative
31 color signal values, on the basis of color signal values
32 in said color signal value extracting region; and
33 a determination unit for determining
34 correctness of said representative color signal value
35 on the basis of said characteristic value.

1 34. A computer readable record medium in which a
2 gradation maintainability checking program for making
3 a computer realize a function of checking gradation
4 maintainability of a color input device is recorded;
5 said gradation maintainability checking
6 program making said computer function as:
7 a color signal value extraction unit
8 for extracting at least one representative color signal
9 value representing each color region from each of a
10 plurality of color regions configuring gradations in
11 a color chart image obtained by reading a predetermined
12 color chart by said color input device; and
13 a check unit for checking gradation
14 maintainability of said color input device on the basis
15 of said representative color signal value extracted
16 by said color signal value extraction unit;
17 when said computer is made function as said
18 color signal value extraction unit, said gradation

19 maintainability checking program making said computer
20 function as:

21 a region decision unit for deciding
22 a color signal value extracting region for each color
23 region of said color chart image;

24 an extraction unit for calculating
25 said representative color signal value of said color
26 region on the basis of color signal values in said color
27 signal value extracting region and extracting the same;

28 a characteristic value calculation
29 unit for calculating at least one characteristic value
30 for determining correctness of said representative
31 color signal values, on the basis of color signal values
32 in said color signal value extracting region;

33 a display control unit for making a
34 display unit displays said color signal value extracting
35 region along with said color chart image; and

36 a determination unit for determining
37 correctness of said representative color signal value
38 on the basis of said characteristic value.